

From: ogicse!uwm.edu!cs.utexas.edu!math.ohio-state.edu!sol.ctr.columbia.edu!
phlim.ph.kcl.ac.uk!sjg@network.UCSD.EDU
Subject: FAQ ??
To: packet-radio@ucsd.edu

I'm looking to get into packet basically for internet access. I've been searching around for FAQ's, but I can't find one for this group. Is there an ftp site that carries it ?

What I want to know is, is there a packet<->internet gateway placed reasonably close to London ? And if not, how viable is it to run my machine as an internet site as if it were a unix box ? I expect this is in the FAQ :-)

Simon.
--

Date: 9 Jun 1993 22:54:30 -0400
From: pa.dec.com!sousa.tay.dec.com!bobseg.enet.dec.com!segrest@decwrl.dec.com
Subject: G3RUH Modems ?
To: packet-radio@ucsd.edu

Where can I find information about the theory, construction interfacing and operation of the G3RUH type modems? Is there a ftp site where I can retrieve this information?

--
Bob Segrest
segrest@bobseg.enet.dec.com

Date: 9 Jun 1993 20:58:25 GMT
From: nothing.ucsd.edu!brian@network.UCSD.EDU
Subject: How fast can a DSY modem go?
To: packet-radio@ucsd.edu

I'm playing with some high-speed digital data transmission (under a Part 5 license, so ham regs don't apply), and I'm considering boosting the speed on a DSY modem. Bisbee tells me that he's made the standard GRAPES kit run at over 115 kbit simply by using a fast EPROM in place of the standard one and fiddling the clock rates; I assume that the DACs are the next item to hit the stops as I increase speed.

I've come across a bunch of really really fast EPROMs (25 ns access time) and I believe I can get faster pin-compatible DACs. What are likely

to be the next showstoppers in the standard DSY design? The IF filter?

I'd like to get the thing up to at least 256kb/s, and 1 mb/s if possible.

Any ideas?

- Brian

Date: 10 Jun 1993 02:05:26 GMT
From: sbcs.sunysb.edu!rick@nyu.arpa
Subject: How fast can a DSY modem go?
To: packet-radio@ucsd.edu

In article <1v5ithINN4aj@network.ucsd.edu> brian@nothing.ucsd.edu (Brian Kantor) writes:

>I'm playing with some high-speed digital data transmission (under a Part
>5 license, so ham regs don't apply), and I'm considering boosting the
>speed on a DSY modem. Bisbee tells me that he's made the standard GRAPES
>kit run at over 115 kbit simply by using a fast EPROM in place of
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>are the next item to hit the stops as I increase speed.

>
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>time) and I believe I can get faster pin-compatible DACs. What are likely
>to be the next showstoppers in the standard DSY design? The IF filter?

>
>I'd like to get the thing up to at least 256kb/s, and 1 mb/s if
>possible.

>
>Any ideas?

I looked at much the same thing a year or so ago. At the time, the cleanest way to get to 1 mBit/sec using the same technique the DSY uses to encode MSK (ie 64x table lookup waveform generator) was to dump the discrete prom/dac approach and use a cheap VGA style ramdac. The idea is to use the "R" output of the ramdac for "I" and the "G" output for "Q". Counter + some steering logic to control the phase of the outputs. It is possible to get ramdacs anywhere up to 400 MHz clock rates. BTW I never pursued the "turbo" retrofit to the DSY after my investigation of fast data radio led me to a whole bunch of interesting literature on multipath.. After reading most of what I found on the subject, getting the bits onto the air at 1 MHz

seemed the least of the problem :-) IEEE trans on Vehicular Technology usually has a bunch of good stuff on digital radio. Good luck!

> - Brian

Rick Spanbauer
State U of NY/Stony Brook

Date: 10 Jun 93 16:12:43 GMT
From: news-mail-gateway@ucsd.edu
Subject: membership
To: packet-radio@ucsd.edu

sub packet-radio

Date: 9 Jun 93 00:55:17 EDT
From: usc!howland.reston.ans.net!ux1.cso.uiuc.edu!uwm.edu!rpi!news.crd.ge.com!
sunblossom!knight.vf.ge.com!news.ge.com!psinntp!psinntp!arrl.org@network.UCSD.EDU
Subject: Packet HIGH SPEED HELP!
To: packet-radio@ucsd.edu

In rec.radio.amateur.packet, pallack@emba-news.uvm.edu.UUCP (J'mes ,,,) writes:

>>From article <C89GFE.1tp@news.iastate.edu>, by tarjan@iastate.edu (The Mad
god!):

>> I am not into packet yet.. but I am looking at getting a packet modem.

>>

>> What are the speeds and specs on the different modems.. and what is special

>> about each different types..

>>

>

>Was speaking to a rep for ARRL and they said the FCC is considering setting up
>larger band with area just for HighSpeed TNC's. But it would be in freq range
>limiting distance. But not exactly sure...

This is probably the NPRM concerning 219 MHz. The idea is to *share*
the band with the Watercom system. By careful coordination and siting,
it should be possible to set up fixed point to point links that don't
interfere with existing users. The ARRL Lab did some experiments to
determine the potential for interference to channel 13 TV in support
of our petition. Range should be as good as 2 meters. While the
aperture of the antennas used is often a little smaller, I think the
decreased noise tends to make up for it.

If you are thinking of the higher microwave bands, I'd
recommend 10 GHz. Perhaps the best known band between
2 and 24 GHz. Waveguide is a convenient size for most
people. A lot of surplus is available, and you can buy

new equipment is well. But, there doesn't seem to be much actually operational, though Glen Elmore has written up a system using 10 GHz Gunnplexers in the ARRL Handbook. But, it really isn't popular yet. Perhaps the recent distribution of circuit board artwork will help. Or maybe someone needs to sell complete plug and play units?

6 GHz might be the best band for a skilled microwave expert. High power surplus equipment is available in the USA (maybe I'll get that 10 watt amp I just bought in time to use on Equinox this weekend). Problem is, variety abounds. Thus, units may look the same on the outside but might be totally different inside. I guess engineering changes aren't unusual for high priced microwave equipment. RF safety become a real concern--you can't be casual around 10 watts+. TWTAs aren't for the careless either, combining both high voltages and high RF levels. But, if you want to set up 300 mile troposcatter links, its worth considering.

2.3 GHz and 3.4 GHz are actually more expensive than 10 GHz, due to the lack of big consumer type markets (radar detectors, automatic door openers, etc.). There is commercial development of 2.4 GHz unlicensed devices that may reduce the cost, but it doesn't seem to be here yet. Since the typical application of a high speed link is point to point, 10 GHz is actually better, since you can get more gain for a given size antenna (e.g. 2 foot dish), and actually get better signals.

Why not lower frequency Gunnplexers? Actually, they are available, but the voltage requirement increases as the frequency drops. Since 10 GHz just manages to work OK with 12 volts and a regulator, lower frequency devices are shunned by many amateurs.

Zack Lau KH6CP/1

Internet: zlau@arrl.org	"Working" on 24 GHz SSB/CW gear
	Operating Interests: 10 GHz CW/SSB/FM
US Mail: c/o ARRL Lab	80/40/20 CW
225 Main Street	Station capability: QRP, 1.8 MHz to 10 GHz
Newington CT 06111	modes: CW/SSB/FM/packet
	amtor/baudot
Phone (if you really have to): 203-666-1541	

Date: 9 Jun 93 13:53:02
From: idacrd.ccr-p.ida.org!idacrd!n4hy@uunet.uu.net
Subject: PK-232 DCD open squelch mod wanted
To: packet-radio@ucsd.edu

The DCD upgrade is available from TAPR in Tuscon, Az. Be sure to specify that you want to do this to a PK-232.

Bob

--

Robert W. McGwier | n4hy@ccr-p.ida.org
Center for Communications Research | Interests: amateur radio, astronomy, golf
Princeton, N.J. 08520 | Asst Scoutmaster Troop 5700, Hightstown

Date: 9 Jun 93 16:11:07 GMT
From: sdd.hp.com!col.hp.com!csn!ncar!vexcel!copper!mercury.cair.du.edu!
mnemosyne.cs.du.edu!nyx!psthomas@network.UCSD.EDU
Subject: reaching address co-ordinator?
To: packet-radio@ucsd.edu

I've been trying to get an IP address (44...) for myself for a short while, and supposedly the coordinator for my area (South central lower Michigan, but I like to call it "Lansing") is WB8WKA. Assuming that he doesn't read r.r.a.p (I'm not ruling that out), how can I get in touch with him electronically? I suppose I could look up his callsign in the trusty callbook, and send snail-mail, but I'm into instant gratification! :-)

Thanks to anybody who can give me some info.

- Patrick Thomas - thomas@lcc.edu - psthomas@nyx.cs.du.edu - KB8DGC -

Date: 9 Jun 93 19:24:01 GMT
From: news-mail-gateway@ucsd.edu
Subject: Sound Blaster as a modem
To: packet-radio@ucsd.edu

Warren writes:

> At a packet meeting last night, an amateur suggested writing an AX.25 packet
> driver for a soundblaster card to do 1200, 4800 and/or 9600 baud. This
> sounds like an excellent idea: no TNC, no modem, just plug the rig into
> the soundblaster.
>
> Has anybody thought of this before? Is it plausible? etc etc.

I remember seeing an article somewhere that some crazy programmer with alot of time on his hands was looking to do this on an Amiga using the built-in sound chips and an audio digitizer. Seems to me that this is an

extremely tedious task considering the cost of a 1200 baud TNC. I think he certainly felt it was possible though.

--

Dan Roman Internet: roman@tix.timeplex.com //
ccMail: roman_d@timeplex.com GEnie: D.ROMAN1 \X/ Only AMIGA!
Amateur call sign N2MFC AX.25 Packet: N2MFC@N2IMC.#NNJ.NJ.USA.NA
Amateur radio TCP/IP: N2MFC@W2NV.ampr.org Station: 40 55 39N 73 59 52W ~

Date: Wed, 9 Jun 1993 14:58:44 GMT
From: usc!sdd.hp.com!col.hp.com!fc.hp.com!mckee@network.UCSD.EDU
Subject: Soundblaster as modem?
To: packet-radio@ucsd.edu

Warren Toomey (wkt@csadfa.cs.adfa.oz.au) wrote:
: At a packet meeting last night, an amateur suggested writing an AX.25 packet
: driver for a soundblaster card to do 1200, 4800 and/or 9600 baud. This
: sounds like an excellent idea: no TNC, no modem, just plug the rig into
: the soundblaster.

: Has anybody thought of this before? Is it plausible? etc etc.

I have looked into it, but have not had the time to get it going. What I do have going is sound card SSTV, which has most all the pieces. I have gotten the source to Poor Mans Packet (PMP) and have looked at modifying the routines which deal with the audio circuitry, but due to a somewhat overloaded schedule, have not actually tried it.

It is quite plausible, and should work. If your PC is fast enough it should be possible to do some pretty fancy modulation, although the decoding will get to be a headache.

Bret

Date: 9 Jun 93 18:53:18 GMT
From: gatech!howland.reston.ans.net!noc.near.net!squam.banyan.com!banyan.com!dts@RUTGERS.EDU
Subject: Soundblaster as modem?
To: packet-radio@ucsd.edu

In article <1993Jun9.004006.23944@sserve.cc.adfa.oz.au>, wkt@csadfa.cs.adfa.oz.au (Warren Toomey) writes:

|> At a packet meeting last night, an amateur suggested writing an AX.25 packet
|> driver for a soundblaster card to do 1200, 4800 and/or 9600 baud. This
|> sounds like an excellent idea: no TNC, no modem, just plug the rig into

|> the soundblaster.
|>
|> Has anybody thought of this before? Is it plausible? etc etc.

At Dayton I picked up a piece of software which does SSTV using a soundblaster.
It should be possible (perhaps even simpler) to handle the sounds for packet...
Interesting idea!!!

|>
|> Cheers,
|> Warren vk1xwt

--

Daniel Senie Internet: dts@banyan.com
Banyan Systems, Inc. Compuserve: 74176,1347
508-898-1188 Packet Radio: N1JEB@WA1PHY.MA

Date: 9 Jun 93 13:31:58 EDT
From: elroy.jpl.nasa.gov!swrinde!cs.utexas.edu!uwm.edu!rpi!news.crd.ge.com!
sunblossom!knight.vf.ge.com!news.ge.com!psinntp!psinntp!arrl.org@ames.arpa
Subject: Soundblaster as modem?
To: packet-radio@ucsd.edu

In rec.radio.amateur.packet, wkt@cserve.cs.adfa.oz.au (Warren Toomey) writes:

>
>|> | Has anybody thought of this before? Is it plausible? etc etc.
>|>
>|> How much control do you have over the phase? And 4800 and above is
>|> not exactly audio modulation anyway...
>
>In the sense that there is a DC component. I've got no idea what's the DSP
>chip on the card, vague memories of a TMS DSP chip. Maurie Daly VK1MD came
>up with the idea. He's now after C libraries to access the DSP chip on the
>card.

No, it's a specialized Japanese (Hitachi? My SB is at home) chip. It's
not a general-purpose programmable DSP chip.

To do this, you'll have to do the modem DSP algorithm on the PC itself.
That doesn't mean it's impossible, but it may limit you to simple
modulation schemes (FSK, for example). I haven't actually done a modem
for the SB, although I've thought about it.

Also, the SB can't transfer data between the PC and the SB in both
directions at the same time (one DMA channel). I understand the

new 16-bit board is more capable, but I don't know the details.

Of course, you'll also need a BAYCOM/PSP type software TNC program to deal with the AX.25 stuff.

Jon Bloom, KE3Z | jbbloom@arrl.org
American Radio Relay League |
225 Main St., Newington CT 06111 |

Date: 10 Jun 93 14:41:07 GMT
From: idacrd.ccr-p.ida.org!idacrd!n4hy@uunet.uu.net
Subject: Soundblaster as modem?
To: packet-radio@ucsd.edu

There is no DSP chip on Soundblaster. It is an A/D and D/A on a card. If this seems pricey for that remember what you are paying for is the software.

Bob

--

Robert W. McGwier | n4hy@ccr-p.ida.org
Center for Communications Research | Interests: amateur radio, astronomy, golf
Princeton, N.J. 08520 | Asst Scoutmaster Troop 5700, Hightstown

Date: Thu, 10 Jun 1993 05:14:10 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!math.ohio-state.edu!sol.ctr.columbia.edu!news.kei.com!ub!clarkson!cheetah.ece.clarkson.edu!tadd@network.UCSD.EDU
Subject: textbook 1200 baud modem???
To: packet-radio@ucsd.edu

I'm looking to build a TNC/node item/diagnostic tool with the help of a local radio club. The CPU design is no problem. I'm planning to use the Zilog SIO part for the USART. I've looked at the AEA PK88, TAPR TNC2

and Pac-Comm modem solutions. All are simple but have an unfamiliar clock recovery circuit. I don't want to copy their designs as I'm afraid

of copyright violations. Is there a textbook solution???

Please send hints or solid info.

Thanks.

Tadd, KA2DEW tadd@cheetah.ece.clarkson.edu

Date: 8 Jun 93 20:01:08 GMT
From: psinntp!psinntp!arrl.org@nyu.arpa
Subject: Timex 1000 and Packet
To: packet-radio@ucsd.edu

I just pulled from storage an old Timex 1000 (still works,
too.) I'd like to use it for Packet (if possible.)

Does anyone know of a BASIC "dumb terminal" program for
this Timex and, whether the Timex ever had an RS-232C
converter?

Thanks!

Joe, NJ1Q

Joseph Carcia, NJ1Q	"The surest sign that Intelligent
ARRL Outgoing QSL Service Mgr.	life exists in the Universe is
American Radio Relay League	that NONE of it has ever visited
225 Main St.	the Earth." - Calvin & Hobbs
Newington CT 06111-9965	
(w) (203) 666-1541 ext. 274	
(fax) (203) 665-7531	
internet: jcarcia@arrl.org	

Date: 9 Jun 93 08:56:51 EDT
From: usc!howland.reston.ans.net!torn!nott!bnrgate!bnr.co.uk!pipex!sunic!psinntp!
psinntp!arrl.org@network.UCSD.EDU
Subject: Timex 1000 and Packet
To: packet-radio@ucsd.edu

I just pulled from storage an old Timex 1000 (still works,
too.) I'd like to use it for Packet (if possible.)

Does anyone know of a BASIC "dumb terminal" program for
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Joseph Carcia, NJ1Q	"The surest sign that Intelligent
ARRL Outgoing QSL Service Mgr.	life exists in the Universe is
American Radio Relay League	that NONE of it has ever visited
225 Main St.	the Earth." - Calvin & Hobbs
Newington CT 06111-9965	
(w) (203) 666-1541 ext. 274	
(fax) (203) 665-7531	
internet: jcarcia@arrl.org	

Date: Wed, 9 Jun 1993 12:30:17 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!torn!
waterv2.uwaterloo.ca!waterv1!rnelson@network.UCSD.EDU
Subject: WG7J Nos and dial-up PPP help needed
To: packet-radio@ucsd.edu

I am in need of help with WG7J Nos and Dial-up PPP. I thought I had a lead on someone who had successfully used this but I cannot reach him in Germany. If you have the tools to compile Nos, please drop me a line. I need to have WG7J compiled for an IBM 386 system.

73 es tnx

Randy

--

Randy Nelson VE3WRN rnelson@waterv1.uwaterloo.ca

Date: 9 Jun 93 15:51:47 CDT
From: mvb.saic.com!unogate!news.service.uci.edu!usc!howland.reston.ans.net!
ux1.cso.uiuc.edu!uwm.edu!msuinfo!uchinews!raistlin!timbuk.cray.com!
hemlock.cray.com!andyw@network.UCSD.EDU
To: packet-radio@ucsd.edu

References <1993Jun9.004006.23944@sserve.cc.adfa.oz.au>, <4041@eram.esi.COM.AU>,
<1993Jun9.063554.7714@sserve.cc.adfa.oz.au>msuinfo
Subject : Re: Soundblaster as modem?

In article <1993Jun9.063554.7714@sserve.cc.adfa.oz.au>, wkt@cserve.cs.adfa.oz.au
(Warren Toomey) writes:

>
> |> | Has anybody thought of this before? Is it plausible? etc etc.
> |>
> |> How much control do you have over the phase? And 4800 and above is
> |> not exactly audio modulation anyway...
>
> In the sense that there is a DC component. I've got no idea what's the DSP
> chip on the card, vague memories of a TMS DSP chip. Maurie Daly VK1MD came
> up with the idea. He's now after C libraries to access the DSP chip on the
> card.

I could be wrong, but I think the use of the phrase "DSP" in the context of a Soundblaster is a bit of a misnomer. I talk to one under 386BSD, and it seems to be just a D/A & A/D with anti-aliasing filters, no real DSP (unless you count some canned compression algorithms which sound lousy). There is a FM sound chip too which can crank out ADSR style tones.

But a 386/486 is still capable of doing quite a lot of number crunching on the raw data supplied by a soundblaster. Being entirely digital, you would have complete control of phase & amplitude.

--
andyw. NØREN/G1XRL

andyw@aspen.cray.com Andy Warner, Cray Research, Inc. (612) 683-5835

Date: Wed, 9 Jun 1993 12:49:00 GMT
From: elroy.jpl.nasa.gov!usc!howland.reston.ans.net!torn!nott!bnrgate!bnr.co.uk!
uknet!mcsun!dxcern!vxcrna.cern.ch!jalocha@ames.arpa
To: packet-radio@ucsd.edu

References <1993Jun9.004006.23944@sserve.cc.adfa.oz.au>, <4041@eram.esi.COM.AU>,
<1993Jun9.063554.7714@sserve.cc.adfa.oz.au>ern
Subject : Re: Soundblaster as modem?

I'm (almost) sure it is possible to write the software to make AX.25 on a SoundBlaster card but the one _with_ a DSP on. Without a DSP you may not have enough processing power to analyze in real time the voice data (8 ksamples/sec ?).

>|> How much control do you have over the phase? And 4800 and above is
>|> not exactly audio modulation anyway...

It is still audio but to avoid phase/frequency distortions you

connect directly to phase/frequency modulator/discriminator.

>In the sense that there is a DC component.

I believe there is no DC component at 4800 due to "tricks" the modem does.
At 9600 the DC is removed by the scrambler I think (but not sure...)

I am interested myself in the idea but the SoundBlaster with a DSP
costs here around \$500 :-(so I'm still waiting for the finish DSPCARD4...

Pawel

End of Packet-Radio Digest V93 #161
